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NOTES FROM THE POST-MORTEM ROOM:

ADDITIONAL CASES OF MALIGNANT ENDOCARDITIS.

BY

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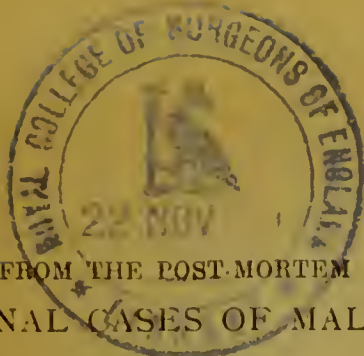
DEMONSTRATOR IN MORBID ANATOMY, THE OWENS COLLEGE.

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ADDITIONAL CASES OF MALIGNANT
ENDOCARDITIS.

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IN previous numbers of the *Medical Chronicle** I have recorded the cases of so-called "malignant" endocarditis met with in the Pathological Department of the Royal Infirmary between November 3, 1891, and May 22, 1897.

Considering the awakened interest in this important form of cardiac lesion, it may be of interest to briefly summarise and analyse the cases which have come under observation during the last twenty-six months.†

The following are short abstracts of our Post-Mortem Reports.‡

CASE 1.—*Malignant Aortic Endocarditis.*

James, H., æt 19. Admitted under Dr. Harris, May 1, 1897. In November 1896, was hit over cardiac region and suffered from dyspnœa since. Signs of aortic incompetence. No history of rheumatism or chorea. Died suddenly, May 9.

Autopsy.—Slight œdema of lower extremities. Heart: Enlarged, 20 ozs. Aortic cusps covered with abundant yellowish-white, soft, pendulous vegetations extending to aortic surface of anterior flap of mitral. Lungs: Recent infarction. Peritoneum: Slight ascites. Liver: Enlarged 60 oz. "nutmeg." Spleen: 6 by 3½ in., 14 ozs., no infarcts. Kidneys: 14 ozs., apparently seat of tubular changes.

CASE 2.—*Cirrhosis of Liver and Kidneys ; Chronic Duodenal Ulcer ; Malignant Endocarditis ; Boils.*

Stephen, H., æt 52. Admitted under Dr. Leech, May 3, 1897, with signs of dilated heart. On May 14 suddenly collapsed and died May 18. Had suffered from boils.

*MEDICAL CHRONICLE, 1896, Vol. V., pp. 5 to 17 ; 1897, Vol. VII., pp. 351 to 359.

†See Report of recent Discussion at British Medical Association. Portsmouth, Aug., 1899. *British Medical Journal*, Aug. 5, 1899 ; and *Lancet*, Aug. 12, 1899, p. 453.

‡*Manchester Royal Infirmary Post Mortem Reports* : Medical Vols. for 1896, 1897, 1898. For many of the clinical facts I am indebted to notes supplied by the House Physicians.

Autopsy.—Boils on forearm. Heart: Mitral valve sclerosed, ulcerated and coated with coarse vegetations which extend to chordæ tendinæ. Aortic cusps slightly sclerosed. Lungs: Congested. Duodenum: Contains blood, chronic ulcer with exposed vessels on floor. Liver: 64oz., diffuse cirrhosis. Spleen: 7½ by 5in., 24½oz., two anæmic infarcts. Pancreas: Adherent to floor of duodenal ulcer. Kidneys: "Granular."

CASE 3.—*Malignant Endocarditis; Embolism of right middle cerebral, Encephalomalacia; Acute broncho-pneumonia.*

Elizabeth B., æt 23. Admitted under Dr. Steell, September 3, 1897, with history of acute illness for one week. Evidences of endocarditis. On September 20, left hemiplegia and hæmorrhage into retina of right eye. Death, September 25.

Autopsy.—No anasarca. Heart: 10½oz. Mitral valve seat of large coarse yellowish-white vegetations; no ulceration; no sclerosis. Lungs: Broncho-pneumonia. Spleen: 6½ by 3½in., 13oz.; numerous infarcts. Kidneys: Small infarct. Brain: Embolus in right middle cerebral, with corresponding acute softening of cerebral substance.

CASE 4.—*Chronic Endocarditis; Malignant Endocarditis.*

Elizabeth K., æt 22. Admitted under Dr. Leech, October 25, 1897, with history of rheumatism and signs of aortic and mitral disease. Patient had been pregnant and was thought by her friends to be so again. Died suddenly from heart failure, November 4.

Autopsy.—"Clubbed" fingers. Petechiæ over thighs. Heart: 18½oz.; mitral segments and chordæ tendinæ sclerosed, irregular, rough, vegetations, extending to auricular wall. Aortic cusps covered with thick, soft, flocculent fungoid masses of vegetations. Aorta: Above valves vegetations and commencing ulceration. Liver: Enlarged 71½oz., "nutmeg." Spleen: 8 by 4½, 121½oz.; several infarcts. Kidneys: Congested, 12½oz.; no infarcts.

CASE 5.—*Valvular sclerosis; Malignant Endocarditis; Sudden Death.*

James R., æt 64. Admitted under Dr. Steell, December 11, 1897. Ill for a year. Ceased work for five months. Only taken to bed during last week. Characteristic signs and symptoms of aortic incompetence. Systolic and diastolic murmurs in all areas. No temperature. Left hospital against advice at 4 p.m. on December 23, and was "brought in dead" at 8 p.m.

Autopsy.—Moderately-nourished elderly man. Œdema of lower extremities. Heart: Much enlarged; weight 23½oz. All cavities dilated. Mitral segments somewhat sclerosed. Hæmorrhage-like patch of inflammatory exudation at inner junction of anterior and posterior cusps. Chordæ tendinæ thickened and softened. Aortic cusps large and thickened, intermediate segment softened and ulcerated. A little below valves patch of ulceration. Aorta: Dilated and atheromatous. Lungs: Congested and cedematous, no infarction. Abdominal organs congested. Liver: Enlarged 82½oz., "nutmeg" and cirrhotic. Gall-bladder: thickened, mucous membrane atrophied, biliary "detritus." Spleen: Enlarged 8½ by 5in., 22½oz., no infarcts. Kidneys: Large, 20oz., tubular nephritis.

CASE 6.—*Valvular Sclerosis; Acute Pneumonia; Malignant Endocarditis.*

John R., æt 48. Admitted under Dr. Steell, January 8, 1898. Deaf and dumb. Old amputation of left leg. Signs and symptoms of acute pneumonia. Temperature 107° before death on January 14.

Autopsy.—Middle-aged male. No œdema. Heart: Enlarged 12½oz. Mitral and aortic cusps thickened. Recent malignant endocarditis of latter. Lungs: Right 43½oz., acute lobar pneumonia, grey stage; left, congested throughout. Liver: Congested and fatty. Spleen: 7½oz., large triangular white infarct. Kidneys: Congested, no infarcts.

CASE 7.—Valvular Sclerosis; Cardiac Hypertrophy and Dilatation; Malignant Endocarditis; Tubular Nephritis; Pulmonary Hæmorrhage; Sudden Death.

George V., æt 35, labourer. Admitted under Dr. Steell, February 4, 1898. "Cardiac" history over 18 years. Signs of aortic disease with hæmoptysis and hæmaturia. Found dead in bed at midnight, February 13.

Autopsy.—Moderately-nourished adult male. Slight anasarca. Heart: "Bovine," old thickening of mitral and aortic valves. Fine vegetations on former, rough, irregular vegetations on and ulceration of latter. Lungs: Congested casco-fibroid patch. Liver: 88½oz., congested. Spleen: 29½oz., size 8½ by 5¼in. large white infarct. Kidneys: 23oz., tubular nephritis, old infarction.

CASE 8.—Valvular Sclerosis; Chronic Aortic and Mitral Disease; Cholecystitis; Malignant Endocarditis.

Alexander W., æt 44, railway porter. Admitted under Dr. Steell, January 15, 1898. Rheumatic fever at 25, also alcoholic excess. Signs of aortic and mitral disease with hæmoptysis and hæmaturia. Death, February 23.

Autopsy.—Slight anasarca. Heart: Enlarged, 22oz., dilated and hypertrophied. Thickening of mitral and aortic cusps. Vegetations and ulceration of latter. Liver: 66oz., congested. Gall-bladder: enlarged, thickened, calcified and containing puriform creamy fluid. Spleen: Enlarged, 18½oz., old cicatrix. Kidneys: Enlarged, 14oz., congested.

CASE 9.—Aortic Sclerosis; Hypertrophied Heart; Malignant Endocarditis; Sudden Death.

Bernard M., æt 36, "brought in dead" to hospital, April 28, 1898. Said to have been in perfect health on previous day, when he returned home from work. Was suddenly seized with severe dyspnœa during the night and in a short time died.

Autopsy.—Several scars about left leg. No recent injury. No dropsy. Well nourished. Hands dirty, as from manual labour. Heart: 14½oz., mitral segments a trifle thickened. Aortic cusps thickened, deformed and calcified with extensive thick flocculent vegetations and large deep ulcerations; left ventricle, hypertrophied. Pleuræ: Double hydrothorax. Lungs: Congested. Liver: 62oz., congested. Spleen: 18oz., size 6½ by 5¼in., no infarct. Kidneys: 11½oz., small recent infarct.

CASE 10.—Malignant Endocarditis—Aortic and Mitral; Tubular Nephritis; Dropsy.

Additional Cases of Malignant Endocarditis.

Daniel R., æt 43. Admitted under Dr. Leech, April 2, 1898, with signs of aortic and mitral disease. Left off work at New Year. Improved up to April 26. then developed erysipelas of the face. Suddenly expired on May 3.

Autopsy.—"Puffy" appearance of face. Dropsy of scrotum and lower limbs. Heart: Enlarged 19oz. Acute aneurysm of mitral valve, thickening and softening of cordæ tendinæ with vegetations and ulceration. On aortic segments large flocculent vegetations with ulceration. No distinct evidence of old valvular disease. Liver: 82oz., congested. Spleen: Enlarged, 6 by 4in., weight 16oz., no infarcts. Kidneys: Enlarged, 16oz., parenchymatous nephritis.

CASE 11.—Chronic Endocarditis; Adherent Pericardium; Malignant Endocarditis; Infarction of Spleen and Kidneys.

Walter F., æt 20, carter. Admitted under Dr. Leech with evidences of malignant endocarditis, June 1, 1898. Died August 30.

Autopsy.—Youth of "cardiac" aspect. Œdema of lower part of body. Pericardium: Adherent. Heart: 20½oz. Mitral and aortic segments thickened with recent coarse, irregularly distributed vegetations, extending on to ventricular walls. Lungs: Congested. Liver: Congested. Spleen: 16½ oz., large infarcts. Kidneys: 13oz., several anæmic infarcts. Gastro-intestinal tract: normal.

CASE 12.—Chronic rheumatic Endocarditis; Mitral Stenosis; Aortic Incompetence; Malignant Endocarditis.

Michael M., æt 9. Admitted under Dr. Dreschfeld, September 10, 1898. Rheumatic history. Evidences of aortic and mitral disease. Death, September 25.

Autopsy.—"Cardiac" aspect. Slight anasarca of lower extremities. Heart: Enlarged, 9oz. Mitral stenosis, coarse vegetations and ulceration; aortic cusps thickened and covered with granular, irregular vegetations, also evidences of destructive changes. Ulceration extends to cardiac wall. Pericardial hæmorrhages. Pulmonary hæmorrhage with old tuberculosis. Liver: 28oz. Spleen: Enlarged, 7½oz. Kidneys: Congested, 6½oz., few depressions; no recent infarcts.

CASE 13.—Chronic Endocarditis; Acute Fibrinous Pericarditis; Malignant Endocarditis; Tubular Nephritis; Splenic infarction.

William R., æt 47, railway guard. Admitted under Dr. Steell, September 27, 1898. Cardiac symptoms for a year. Ceased work 6 weeks ago. No history of rheumatism. Died, September 30.

Autopsy.—Œdema of scrotum and lower limbs. Heart: Enlarged 24½oz., old thickening of mitral and aortic cusps. Vegetations on mitral. Pericardium: Acute fibrinous pericarditis. Pleuræ: Double hydrothorax. Liver: 64oz. "Nutmeg." Spleen: 9oz., size 4 by 2½, large old anæmic infarct. Kidneys: 13oz., tubular nephritis. Stomach and intestines: Normal.

CASE 14.—Aortic Sclerosis; Malignant Endocarditis; Pulmonary Infarction.

William C., æt 44, market porter. Admitted under Dr. Harris, September 19 1898 with evidences of aortic and mitral disease. Cardiac symptoms for two years. Alcoholic history. Death October 10.

Autopsy.—"Cardiac" aspect, anasarca. Heart: Enlarged, 22oz. Aortic cusps thickened, calcified, thick flocculent soft masses of vegetations. Pericardium: Hæmorrhages. Lungs: Multiple infarcts. Liver: Enlarged, 70½oz., "nutmeg." Spleen: 4½ by 3in., 6oz., congested. Kidneys: 15oz., congested. Stomach and intestines: Congested.

CASE 15.—*Chronic Rheumatic Endocarditis; Malignant Endocarditis.*

Alice C. æt 21, mill hand. Admitted under Dr. Steell, June 11, 1898. Rheumatic history, cardiac symptoms since March. Death, October 12.

Autopsy.—"Cardiac" aspect. Heart: Enlarged. Mitral valves coated with long, large, soft, irregular, pendulous, pinkish-white, coarse vegetations on both aspects, especially plentiful on anterior flap. Vegetations about chordæ tendinæ and extending to auricular wall. No ulceration. Aortic cusps normal. Pericardium: Hæmorrhages. Pleuræ: Serous effusion, hæmorrhages. Lungs: Congested œdematous, recent hæmorrhages, pneumonia. Liver: 53½oz., "nutmeg." Spleen: 8½ by 4in., 14oz., several infarcts. Kidneys: 10½oz., congested, hæmorrhages.

CASE 16.—*Pulmonary and Intestinal Tuberculosis; Abnormality of Urinary Organs; Malignant Endocarditis.*

Hannah, W., æt 20. Admitted under Dr. Steell, September 27, 1898. Death, February 19, 1899.

Autopsy.—General anæmia, extreme wasting. Heart: Enlarged. Slight mitral sclerosis. Large, soft, irregular, warty-looking masses of vegetations. Small vegetations on aortic cusps. Pleuræ: Double hydrothorax. Lungs: Acute tuberculosis with cavitation. Intestines: Tubercular ulcers. Liver: A little enlarged and congested. Spleen: 3½oz., no infarcts. Kidneys: Left, small, contracted; right, congenitally absent.

CASE 17.—*Malignant Endocarditis; Ulceration and Perforation of Aortic Valves; Enlarged and Infarcted Spleen; Cirrhotic and Congested Liver; Parenchymatous Nephritis.*

Charles, F., æt 41, packer. Admitted under Dr. Wilkinson. April 27, 1899, with evidences of aortic and mitral disease, and great enlargement of liver and spleen, and hæmaturia. Death, May 5.

Autopsy.—Slight anasarca. Heart: 19½oz. Slight vegetationss, mitral, and aortic cusps seat of numerous soft, coarse, irregular, fungoid vegetations which extend on to wall of ventricle and surface of aortic flap of mitral and surround aperture of coronary above left posterior cusp. Valves ulcerated and perforated. No evidence of old sclerosis. Lungs: Congested, no infarcts, no pneumonia. Peritoneum: Slight ascites. Liver: Enormous size, 120oz., "nutmeg" and cirrhotic. Spleen: 11½ by 7½in., 70oz., infarcts. Kidneys: 21½oz. Parenchymatous nephritis.

CASE 18.—*Chronic Endocarditis; Empyema; Malignant Endocarditis; Acute Septic Lepto-Meningitis.*

Mary P., æt. 21, ward-maid, Admitted under Dr. Dreschfeld, April 15, 1899. Fourteen weeks previously had acute influenzal pleuro-pneumonia, followed by empyema. Latter opened, but continued to discharge. Death May 8.

Autopsy.—Empyema scar surrounded by erythematous area. Pericardium:

much blood-stained serum. Heart: greatly enlarged. Tricuspid; irregular vegetations. Mitral thickened; large, coarse vegetations. Aortic cusps sclerosed. A few minute vegetations. Lungs: left, compressed. Liver; 61oz., "nutmeg." Spleen: congested, 6oz., no infarct. Brain: Acute septic lepto-meningitis.

CASE 19.—*Chronic Aortitis; Aortic Stenosis; Malignant Endocarditis; Cerebral Hæmorrhage.*

Albert H., æt. 6, schoolboy. Admitted under Dr. Dreschfeld, May 12 in a drowsy condition, with retracted head, and signs of aortic and mitral disease. Death in a few hours.

Autopsy.—No external injury. Heart: Slight thickening of mitral segments. Aortic cusps covered with vegetations, and ulceration of 'intermediate' valve. Aorta: Small, constricted, thickened, and coated with large irregular vegetations, which extend upwards to surround innominate. Lungs: Congested and œdematous. Spleen: Much enlarged; 7oz; 6 by 3. Kidneys: Congested. Brain: Large hæmorrhage on right side to external aspect of optic thalamus.

CASE 20.—*Chronic Endocarditis; Mitral Stenosis; Malignant Endocarditis.*

Joseph S., æt. 20. Labourer. Admitted February 2, 1899, under Dr. Steell, with rheumatic history and signs of mitral stenosis. About six weeks previously had attack resembling erysipelas. Death July 6.

Autopsy.—Dropsy of lower extremities. Heart: Much enlarged. Mitral orifice extremely stenosed with coarse, warty masses of vegetations; chordæ tendinæ, thickened and shortened. Aortic cusps sclerosed; orifice slightly stenosed; clump of recent coarse pink vegetations. Lungs: Large gangrenous cavity in upper right lobe; old infarcts in lower lobe. Left lung compressed and congested. Liver: 55oz.; "nutmeg." Spleen: Enlarged; 9oz.; old infarcts. Kidneys: Small infarct.

ANALYSIS OF THE ABOVE SUMMARISED CASES.

(1) *Number.*—Twenty cases have been examined between May 23, 1897 and Aug. 14, 1899. Compared with all other *medical* cases submitted to autopsy, malignant endocarditis formed 5·44 per cent.

(2) *Sex.*—Of the 20 cases, 13 were men, 5 women, and 2 boys—that is a percentage of 75 males and 25 females.

(3) *Age.*—The average age was a little over 28 years. That of the males was just over 35 years, and that of the females a little above 21 years. The oldest male was 64, the youngest 6. The oldest female was 23, the youngest 20.

(4) *Previous History.*—A distinct history of rheumatism could only be obtained in 5 cases. As far as could be ascertained none had suffered from chorea. Judging from the condition of the endocardium it is probable a far larger number had really been the subjects of rheumatic processes. A young man of 19 dated his

illness from a blow received over the heart. A man aged 52 had suffered from boils. A woman of 22 had been previously pregnant. One man was "deaf and dumb." A man aged 36 was working the day before he died, apparently in his usual health. A woman aged 21 had suffered from empyema, following influenzal pneumonia.

(5) *Previous Cardiac Disease.*—In 15 of the 20 cases there were distinct signs of old valvular disease; 12 males and 3 females. In many the sclerosis was considerable; but in several there was only a limited degree of induration. In 2 there was well-marked mitral stenosis. The aorta was thickened and narrowed in one. In only 4 was there fairly conclusive evidence that the valves were healthy previous to the occurrence of the malignant endocarditis.

(6) *Duration.*—This was very difficult to estimate. Generally the malignant process seems to have existed for several weeks; in some probably for months. Two cases were "brought in dead" to hospital. In one the man was said to have been working the day previously. In addition to these two, two others died very suddenly.

(7) *Locality and Extent.*—All the cases were left-sided. In 4 the mitral was the only valve appreciably involved; in 7 the aortic alone; in 9 both aortic and mitral. In several the vegetations had extended from the valves to the chordæ tendineæ and adjacent endocardium. The aorta was encroached upon in at least one case. In one the vegetations surrounded one of the coronary arteries.

(8) *Character of the Lesion.*—In 10 the abundant vegetations were the most striking feature. Ulceration was also present in 10. An aneurysm involved the mitral valve in one case.

(9) *Infarction.*—Infarction was noted in 12 cases. In 2 the lung was involved. Infarcts occurred 5 times in the kidneys, and 9 times in the spleen. An embolus was also found in one case in the right middle cerebral artery.

(10) *Secondary and Associated Lesions.*—A distinct lobar pneumonia was present in one case; acute broncho-pneumonia in another. Hæmorrhage into the lung was noted in several. An empyema had existed for some time in one case, and had been operated on. Acute pulmonary tuberculosis with cavitation, and associated with intestinal tubercular ulcers, existed in one.

Adherent pericardium was found once. A duodenal ulcer

existed in a man of 52, and ulcerating into a vessel led to death from hæmorrhage. Hepatic cirrhosis existed in at least two. Once the gall-bladder was found obstructed and filled with puriform fluid. Most of the cases presented more or less passive venous congestion of the liver, many being well marked examples of "nutmeg" liver.

The spleen was recorded as enlarged in 17. In 3 it seems to have been normal. The weight was taken in 19. The average was $16\frac{1}{2}$ oz. The highest was 70 oz.; the lowest $3\frac{1}{2}$ oz. Four were between 20 oz. and 30 oz.; 6 between 10 oz. and 20 oz.; and 8 below 10 oz.

Tubular nephritis was present in at least 4. The right kidney was congenitally absent in 1.

Well-marked granular kidney was present in at least 1 case.

Cerebral softening, due to embolus in the right middle cerebral occurred in a woman of 23. Septic lepto-meningitis was found in a woman of 21. Boils were found in 1 case.

More or less ascites and dropsical effusion into the other cavities and tissues of the body were found in many of the cases.

Punctiform hæmorrhages were also present in a considerable number of the cases.

In conclusion, I desire to again acknowledge my indebtedness to the above-mentioned members of the Infirmary staff for thus kindly allowing me to make use of these cases.